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**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

Received  
6/18/97  
jm

June 12, 1997

Mr. Theodore J. Taylor, DOE Program Manager  
Los Alamos Area Office  
Department of Energy  
528 35th Street, MS A316  
Los Alamos, New Mexico 87544

Mr. Jorg Jansen, Program Manager  
Environmental Restoration Project  
Los Alamos National Laboratory  
1900 Diamond Drive, Mail Stop M992  
Los Alamos, New Mexico 87544

**RE: Denial of RFI Report Dated January 1996 for  
Los Alamos National Laboratory LA-UR-95-3693  
Technical Area 21 SWMU 21-029**

Dear Mr. Taylor and Mr. Jansen:

The RCRA Permits Management Program of the New Mexico Environment Department (NMED) has reviewed the above subject report and found it to be grossly deficient. This RFI Report failed to meet the objective stated within this report to characterize the nature and extent of contamination. Therefore, HRMB denies approval of the above mentioned RFI Report and requires submittal of a Sampling Analyses Plan (SAP) to address the nature, rate, and extent of contamination at the DP Tank Farm. DOE/LANL shall submit a SAP to NMED HRMB within thirty (30) calendar days of receipt of this letter. The attached comments should be considered in the development of the SAP and the subsequent RFI Report.



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Mr. Taylor and Mr. Jansen  
June 12, 1997  
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If you have questions concerning this letter, please contact myself or Mr. John Kieling at (505)827-1561.

Sincerely,



Robert S. (Stu) Dinwiddie, Ph. D.  
RCRA Permit Management Program Manager

RSD:dww

attachment

cc: D. Neleigh, EPA Region VI  
T. Davis, NMED HRMB  
R. Dinwiddie, NMED HRMB  
T. Glatzmaier, LANL, DDEES/ER, MS M992  
M. Johansen, LAAO, MS A316  
J. Kieling, NMED HRMB  
M. Leavitt, NMED GWQB  
G. Saums, NMED SWQB  
D. McInroy, LANL, EM/ER, MS M992  
J. Parker, NMED DOE OB  
S. Yanicak, NMED DOE OB  
G. Allen, LANL MS E525  
File: LANL HSWA FU 1/OU 1106/TA 21/21-029  
Track: LANL, DATE, N/A, DOE/LANL, HRMB/DWW, RE, FILE

COMMENTS FOR RCRA FACILITY INVESTIGATION REPORT  
Technical Area 21  
SWMU Number 21-029  
January 1996

General Comments

1. Document of Understanding (DOU), Appendix N, RCRA Facility Investigation(RFI) Report, Pages 1-6. The DOU lists a specific format for RFI reports for which this document lacks. The following sections were not included in the RFI report: Section 2.2.2 Soils, Section 5.1.1 History, Section 5.1.2 Physical Description, Section 5.1.7.2 Risk Assessment, Section 5.1.8 Ecological Assessment, and Section 5.1.9 Extent of Contamination.
2. All deviations from the approved RFI Workplan should be summarized in a section entitled as such.
3. A preliminary review of Voluntary Corrective Action Report for Potential Release Site 21-029 DP Tank Farm, dated July, 1996, which addresses the East Fill Station only, reveals that Total Petroleum Hydrocarbon (TPH) of up to 8,900 parts per million (ppm) was left in place then backfilled during the Voluntary Corrective Action (VCA). The extent of contamination has not been determined for the East Fill Station.
4. The SAP for DP Tank Farm should include SAPs for investigating the East and West Fill Station areas, the above ground tank area, and the hydrocarbon seep area in DP Canyon. Page 3, Voluntary Corrective Action Plan for Potential Release Sites 21-029, DP Tank Farms Removal of Contaminated Soil, April 1996, states: The 1995 UST investigation at the former West Fill Station Location revealed that neither TPH, BTEX, nor benzene were detected in samples collected from any of the boreholes at concentration greater than 1,000, 500, and 10 ppm respectively. However, from the RFI Report, Table A-14, page A-49, Sample 231-3003 found TPH in two samples with results of >600 and > 670 ppm. There is no indication further testing was done.

## Comments for RFI Report

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5. The seep has been identified as "weathered diesel" and constitutes Refuse in a watercourse. Therefore, under regulations established by the New Mexico Water Quality Control Commission (NMWQCC) in the *State of New Mexico Standards for Interstate and Intrastate Streams*, 20 New Mexico Administrative Code, NMAC, 6.2, Section 2201: *No person shall dispose of any refuse in a natural watercourse or in a location and manner where there is a reasonable probability that the refuse will be moved into a natural watercourse by leaching or otherwise.*
6. The data verification and validation conclusions reached within this report are grossly inadequate to determine data sufficiency for decision making. See Specific Comments 9, 10 and 11.

### Specific Comments

1. Executive Summary, Page vi; The DP Tank Farm Site is recommended for No Further Action (NFA) based on Criterion 3 of LANL's NFA Criteria Policy as found in the Document of Understanding (DOU). Criterion 3 states: *No release to the environment has occurred, nor is likely to occur in the future.* However, NMED HRMB cannot concur with this recommendation at this time due to the deficiencies in this report.
2. Section 1.2, Phase I Work Plan Overview, pg. 1. A summary of the workplan should be provided within this section.
3. Section 1.3, Field Activities, pg. 4, stated "Data from the 1994 investigation indicated that TPH was the only constituent in the soil at DP Tank Farm at levels greater than SALs." Please see below a compilation of data found in Table A-8, page A-20, of the RFI report that indicates other constituents found above SALs:

Location ID	Sample ID	Benzene (mg/kg)	Trimethylbenzene [1,2,4-] (mg/kg)	Trimethylbenzene [1,3,5-] (mg/kg)
21-2556	AAB9713	<2.7		
21-2556	AAB9714	<1.4	110	
21-2556	AAB9715	<2.5	100	
21-2556	AAB9716	<0.76	50	
21-2558	AAB9722	<6.7	120	
21-2558	AAB9723	<6.9	270	65
21-2558	AAB9724	8	260	69
21-2559	AAB9725	<3.4	160	49
21-2559	AAB9726	<7.3	210	50
21-2559	AAB9727	<3.4	270	70
21-2559	AAB9728	<7.2	250	59
<b>SAL</b>		<b>0.67</b>	<b>40</b>	<b>32</b>

4. Section 2.2, Geology, pgs. 5-6. A map of the geological features of the subsurface should have been provided.

5. Section 2.3, Hydrology, pg. 6. According to information in Section 2.2 concerning fractures, there is a 5 feet spacing of fractures and the location of these fractures should be included. If infiltration of petroleum occurred, it is hypothetical that the migration is in a north-south direction and slightly to the west. As per pg. 28 of the RFI report, there is a seep of petroleum products north of the West Fill Station. Page 6 further states that the Bandelier Tuff is only known to be a water-bearing formation in shallow and localized areas. Therefore, boreholes LADP-4 and MDA-V, which are 0.75 miles and 0.5 miles respectively from the site, are not adequate for determining if there is a saturated zone beneath PRS 21-029. Hydrogeologic cross-sections for the site should be included.

Comments for RFI Report  
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6. Section 2.3, Hydrology, pg. 6. The report states there is no potential for petroleum product contaminants to impact the main aquifer. However, alluvial ground-water is known to exist further downstream in DP Canyon. Whereas this report contains no ground water data, the potential impact to ground water is not adequately addressed.
7. Section 2.4, Wildlife Habitats, pg. 7, does not discuss the wildlife and plant life present in and around this area. LANL shall provide this information.
8. Section 2.0, Environmental Setting, pgs. 5-7. There is no discussion in this section of any cultural resources. As a reference, please refer to Document of Understanding (DOU), Appendix N, pgs. 3-6, to see a discussion of cultural resources to be included in the RFI outline.
9. Section 4.1, 1994 Quality Assurance/Quality Control Activities, TAL Metals, pg. 14. Requests 19078 and 20061 exceeded holding times by six days and up to three months, respectively. Decisions were then made to limit the constituent monitoring list in the 1995 investigation based on the 1994 results. A full constituent monitoring list can not be developed from the inadequate 1994 data. Thus, the human health screening assessments presented are inconclusive as well as other remedial actions taken which were based upon the earlier 1994 data.
10. Section 4.1, 1994 Quality Assurance/Quality Control Activities, pg. 15, SVOCs. Due to the low surrogate recoveries, holding time exceedances, and problematic diluted samples below detection limits, conclusions regarding the presence or absence of contaminants can not be made. These analytes should have been included in the 1995 investigation to determine whether or not there were present at the site.
11. Section 4.1, 1994 Quality Assurance/Quality Control Activities, pg. 16, Radionuclides. A problem with request 19090 for Cesium 137 was noted. Whereas Cesium 137 is a daughter of Plutonium decay and Plutonium was purified at TA-21 in the past, further investigation as to whether or not this isotope is present should be done.
12. Section 4.2, 1995 Quality Assurance/Quality Control Activities, pg. 17. NMED does not consider the sampling parameters analyzed during the 1995 investigation as adequate to have characterized the nature and extent of contamination. See Specific Comments numbers 9, 10 and 11.

13. Section 4.2, 1995 Quality Assurance/Quality Control Activities, BTEX, MEK, and Acetone Analyses, pg. 18. It is not acceptable to subtract the method blank concentration from the sample concentrations without reporting the method blank and sample concentrations independently. LANL shall provide additional information regarding the method detection levels and calibration results. Further definition of the range used to qualify a sample as non detect and a reference is also needed to understand the methodology behind multiplying the analyte result in a blank by 25.
14. Section 5.1.2.1, 1994 Field Screening Results, pg. 28, Hydrocarbon Seep and DP Canyon Sampling. The Seep located in DP Canyon was identified as "weathered diesel," and therefore, constitutes Refuse in a water course as per NMAC 6.2, Section 2201. Please see General Comment Number 3.
15. Section 5.2.1, Background Comparisons, pg. 30. The Gehan modification to the Wilcoxon Rank Sum test and the Quantile test were used to account for non detects. Further explanation is needed as to why these tests were chosen as well as actual detection limits.
16. Fig. 5-7, pg. 45. A summary of the TPH results at the West Fill Station indicates the 1995 investigation was centered on borehole 21-2556. However, Figure 5-7 shows no results for borehole 21-2556 for TPH. Figure 5-10, page 47, also does not show TPH results for 21-2556. If this borehole was not analyzed for TPH, it should not have been used to center the investigation as indicated on page 46.
17. Section 5.2.5, Summary of the Results from the 1994 and 1995 Investigations, pg. 46, West Fill Station, states that the contamination is bounded vertically by a depth of approximately 20 feet below ground surface (ft bgs). This cannot be determined because boreholes 21-3002 and 21-3005 show detections of BTEX and Benzene at 35 ft bgs. See fig. 5-11 pg. 48. Also, a boring is needed NE of 21-003 to begin to bound the extent of horizontal contamination. Also, East Fill Station needs a borehole NW of 21-3007 to begin to bound the extent of horizontal contamination.
18. Section 5.2.5, Summary of the Results from the 1994 and 1995 Investigations, pg. 50, Stream Channel, states the seep in the stream channel is not related to DP Tank Farm. Whereas, the TPH peaks in the chromatograms were analyzed qualitatively and the values were estimated with uncertainty at less than 1 ppm, the seep may or may not originate from DP tank farm.

Comments for the RFI Report  
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19. Section 5.3, Conclusions and Recommendations, on pg. 51 states PRS 21-029 is recommended for no further action. However, due to the deficiencies in this report, HRMB cannot concur with this recommendation. Recommendation for NFA cannot be supported for a site when the site has not been assessed for contamination to ground-water. Also, RFI Report for SWMU 21-029, pg. 50, 5.3 Conclusions and Recommendations, states that Benzene was found at concentrations that exceed SALs. Due to the fact that the extent of contamination was not determined, HRMB cannot support NFA.
20. Analytical Data for 1994, Appendix A, pgs. A-3 to A-27, Data Reporting. No information is contained in Appendix A concerning sampling date, time, personnel taking the sample or personnel analyzing the samples. The number of the samples collected for fixed laboratory analyses to be analyzed by an off-site laboratory should also be reported.
21. Analytical Data for 1994, Appendix A. All Gamma Spectroscopy data, found in Table A-3, pgs. A-6 through A-13, states there were high Cesium-137 recoveries in the QC sample. The comments go onto state that the data were not qualified, but that all data are valid. This is a contradiction. These samples should have been taken again for analysis. Whereas Cesium-137 is a fission product of Plutonium which was purified at TA 21, this product could exist at the site from a variety of migration paths.
22. Analytical Data for 1994, Appendix A, Table A-9, pg. A-21. This Table should be revised based on Specific Comment Number 9.
23. Analytical Data for 1995, Appendix A, pg. A28 thru A56. Data not qualified in the 1994 sampling, such as the gamma spectroscopy and VOC analyses, should have been repeated in 1995 to obtain adequate and valid data for the site. See Specific Comments 9, 10, and 11.
24. Field Screening results by Direct  $\beta/\gamma$  reading in counts per minute, as per Table A-13, pgs A-44 through A-48, were often above background. This should have also resulted in additional gamma spectroscopy analyses of the site.

25. Attachment B included a letter to the Surface Water Quality Bureau of the NMED, dated May 19, 1995, detailing a release of diesel fuel at TA-21. The attached description of the release stated: *A site investigation at the former DP Tank Farm located at TA-21 has indicated that contaminants may have migrated to DP Canyon by flow through fractures in the tuff.* The VCA Report of PRS 21-029, DP Tank Farm, dated July, 1996, pg. 13, states: *Stained tuff was observed adjacent and along fractures. In some places, the stained material extended as much as 3 to 4 ft from fractures.* Further sampling should be conducted to determine the source and the area of the seep as requested in General Comment 3. LANL shall submit a SAP to determine the nature and extent of contamination.
26. Attachment B included a letter to LANL from AIP, dated June 28, 1995, suggesting samples of surface water and soil/rock be taken. However, all data in this report were gathered in May, 1995, or earlier. (See bore logs in Attachment A for dates.) The next report received for this site, Voluntary Corrective Action Plan for Potential Release Sites 21-029, DP Tank Farms Removal of Contaminated Soil, April 1996, does not discuss the seep area of source of the seep. The SAP should be prepared to determine the source of the seep.
27. Attachment A, Enclosure 5 - This section is missing numerous core sample logs referenced within the report. LANL shall provide core sample logs associated with the RFI.
28. Attachment A, Enclosure 8 - What relevance does the map provided have to the subject area? LANL shall provide a map which shows all boreholes within a mile radius which have encountered saturated conditions.